

## t50\_tex\_2

(TMbsb6BQWbk9v4Bv6YxazpZxzTQGofWKhDs)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_tdlat\_3 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (\neg X0 \in X1) \Rightarrow (r1\_xboole\_0 (k1\_tarski X0) X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v3\_tdlat\_3 \\ X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k2\_pre\_topc \\ X0 (k6\_domain\_1 (u1\_struct\_0 X0) X2)) \Rightarrow (k2\_pre\_topc X0 (k6\_domain\_1 \\ (u1\_struct\_0 X0) X1) = k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 \\ X0) X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((r1\_xboole\_0 \\ X1 X2) \wedge (v3\_pre\_topc X1 X0)) \Rightarrow (r1\_xboole\_0 X1 (k2\_pre\_topc X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow ((v3\_tdlat\_3 \\ X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ ((v4\_pre\_topc X1 X0) \Rightarrow (v3\_pre\_topc X1 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Rightarrow (r1\_xboole\_0 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0)))\Rightarrow(\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\wedge((\neg v1\_xboole\_0 X1)\wedge(v4\_pre\_topc X1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(v4\_pre\_topc (k2\_pre\_topc X0 X1) X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(m1\_subset\_1 (k2\_pre\_topc X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (11)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge((v3\_tdlat\_3 X0)\wedge(l1\_pre\_topc X0))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_xboole\_0 (k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 X0) X1)) (k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 X0) X2)))\vee(k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 X0) X1) = k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 X0) X2))))))$$